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13.

OPERATION IN HIP-JOINT DISEASE WITHOUT SHORTENING.¹

BY

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So much has been said and written on the subject of morbus coxæ or tuberculous disease of the hip-joint, that some apology would seem necessary for attempting to produce anything of special interest to surgeons on this important malady, which so frequently develops in our midst.

The treatment of tuberculosis of the lungs and of other organs of the body has attained such satisfactory results within the last few years, that my attention has been particularly drawn to tuberculous disease of the hip-joint, and especially to those cases which, owing to neglect or otherwise, have advanced to the stage known as abscess of the hip-joint. In these cases, as is well known, there may be involved the head of the femur, the great trochanter, the lesser trochanter, and a greater or lesser portion of the shaft of the femur, all more or less degenerated as a result of the destructive process.

The operation to which I desire to call attention can best be illustrated by referring briefly to 2 cases in which I operated recently in the C. C. G. P. Hospital, Ottawa.

CASE I.—A little girl, 4½ years old, whose parents are comparatively healthy. Her father's father and 2 brothers and 1 sister died of tuberculosis of the lungs. The child was asthmatic from babyhood, when she suffered from acute spinal meningitis. She had frequent scrofulous manifestations on the skin, especially about the head, face and ears. About September, 1902, her mother noticed a limp and screaming at night. The usual symptoms made the diagnosis plain.

The patient was given some extension treatment, but an abscess developed rapidly, and when I saw her in January, 1903, the limb had become shortened, flexed, adducted and motionless. A large abscess was fully developed. She was taken to the hospital on January 29, 1903, and I operated on February 3.

The opening was made on the outer side below the great

¹ Read before the Canadian Medical Association at London, Ont., August, 1903.

trochanter where the abscess pointed. There was fully a pint of pus, on emptying which, the debris of bone was cleaned away, principally with the fingers aided by the careful use of the curet. The destruction of bone in this case included the head and neck of the femur, and about 3 inches of the shaft and the bony portion of the acetabulum. The pelvic cavity had been protected by a barrier of thickened membrane.

In scraping away the diseased portions of bone and other tissues, I took special care to preserve all the shreds of periosteum, considerable of which was seen to be adherent to the sur-



rounding muscles, and the periosteum was pulled back over the remaining apparently sound portion of bone for about half an inch, where this further half-inch of bone thus denuded was excised by a chain saw. The debris of bone and other tissues having been thoroughly cleaned away, the leg was then extended and stretched by an assistant full length or more. The next step was to stretch and extend the shreds of periosteum along the space recently occupied by the diseased bone up to the lower part of the acetabulum, where I stitched them to

the periosteum raised from the ilium at this point for the purpose. The muscles and fibrous tissue of the deeper portion of the wound, with some adherent periosteum, were then drawn together and stitched with catgut, thereby covering the stretched shreds of periosteum. The remainder of the wound was left open, dressed with aseptic gauze, and allowed to heal by granulation.



While the patient was still under the anesthetic, the leg was strongly extended and about 15 pounds weight applied to maintain the proper length. Great care was required for the first 2 weeks to keep the leg extended full length, as the muscular contraction in these cases is more than ordinary. On the third day I dressed the wound and found it perfectly aseptic. It was washed with sterile water and dressed with aseptic gauze,

repeating every 2 or 3 days. The child was allowed to sit up in bed on the twelfth day and frequently afterward. The wound healed almost entirely in 5 weeks, and she was taken home, where a few dressings were afterward done.

Moderate extension was still continued for about 4 months, but she was not allowed to walk until about August 1, about 6 months after the operation. Gentle movements of the leg were kept up daily after the second week, for the purpose of moulding a new joint which, I am pleased to say, has been fully realized in this case. The patient has been walking since, and has almost perfect use of the leg and joint, and no appreciable shortening—actual measurement shows less than an eighth inch. Neither is there any lordosis nor tilting of the pelvis.

I have taken skiagraphs of the bone which seem to prove that nature has reproduced new bone. Possibly part of it may be cartilaginous, but it is almost as serviceable as though none of the bone was lost from disease.

As the upper 3 centers of ossification in the femur were undoubtedly destroyed in this case, I am led to believe that the periosteum may have a greater part in the reproduction of new bone in such cases than has been utilized.

CASE II.—A young lady, aged 17. In general appearance, was of the tuberculous type; general condition fair; no disease of the lungs. She first complained of pain and soreness in the left knee-joint in the autumn of 1900. Soon after, she found pain and soreness in and around the left hip-joint. She was treated by a physician near her home for rheumatism for about $1\frac{1}{2}$ years, and was gradually becoming worse. In the summer of 1901 she was unable to use her leg and went about on crutches. In September, 1902, she came to Ottawa, and was treated every day for a month by a disciple of vitaopathy, by means of the laying on of hands and other charms peculiar to the cult, with the measure of success we might expect.

I was called to see the patient in October, 1902, and made a diagnosis of advanced hip-joint disease. I told her relatives that I considered there was little hope of staying the disease at this stage, but as they were averse to operation, I put her on extension with reconstructive treatment directed to the tuberculous condition, and massage locally. As there was no more progress toward recovery than I had anticipated, I took her to the hospital on March 16, 1903, and on March 30 I operated.

The principal symptoms in this case were local pain and soreness, especially over and below the great trochanter. There was no shortening, but there was slight flexion of the leg and crepitus of the joint. There was slight elevation of temperature.

The incision was made as in Case I. The great trochanter and about 4 inches of the shaft were almost totally degenerated, except a thin shell of bone which was soft and cheesy. The disease had apparently extended to the neck and head above. The capsule was intact, but as the head showed distinct grating on

moving the leg, it was decided to open the capsule and examine the head of the femur. It was soft, and showed so many signs of disease, and as the affected area below the trochanters was almost entirely broken down, we decided to remove it.

I took special care to preserve all the periosteum, as in Case I, and proceeded similarly with the remaining steps of the operation. The treatment throughout, and the result, were simi-



lar to those in Case I, but the healing took about twice the length of time owing to the necessity of twice cureting a suppurating sinus.

I did not take the precaution to have photographs taken before operation, but I exhibit photographs of both cases taken recently, and also skiagraphs of the bones and joints showing fairly well their present con-

dition. The shortening in both cases is practically nil, and the joint motion is good, as is also the action of the muscles involved.

No doubt 2 cases form a limited test for an operation, and the time elapsed is not sufficient criterion as to the permanency of the results obtained. However, I would be pleased to hear from more experienced surgeons on the subject.



The principal points to emphasize are :

1. Thoroughly clear away all diseased bone and debris.
2. Carefully preserve all existing portions of periosteum.
3. Stretch the periosteum along the track of the old bone and attach to the periosteum of the lower margin of the acetabulum.

4. Stitch the muscles and fibrous tissue over the periosteum.
5. Stretch the leg full length and apply 15 to 20 pounds weight for extension.
6. Allow the wound to heal by granulation.



7. Let the patient sit up in bed 2 weeks after operation.
8. Keep the weight on for 4 months, or use a Thomas splint and allow the patient up after 6 weeks.
9. Do not allow the patient to walk for 6 months.

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